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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/778,259	02/07/2001	Cristobal Guillermo dos Remedios	13388	4496
7590 06/28/2005				
Scully, Scott, Murphy & Presser 400 Garden City Plaza Garden City, NY 11530		EXAMINER CHEU, CHANGHWA J		
		ART UNIT		PAPER NUMBER
		1641		

DATE MAILED: 06/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/778,259	REMEDIOS ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Jacob Cheu	1641	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 26 May 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,3-7,11 and 34-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 3-7, 11, 34-37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

Applicant's amendment filed on 4/28/2005 has been received and entered into record and considered.

The following information provided in the amendment affects the instant application:

1. Claims 2, 8-10, and 12-33 are cancelled.
2. Claims 35-37 are added to the instant application.
3. Claims 1, 3-7, 11, 34-37 are under examination.

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 3-7, 35-37 are rejected under 35 U.S.C. 102(e) as being anticipated by Hannas et al. (US 6235538).

Hannas et al. teach a method of analyzing environmental toxicants. Hannas et al. teach contacting sample containing environmental toxicants with a binding partner of a template where the template could be nucleic acid, RNA or protein (See Summary of Invention). The binding partner has binding affinity for the template and the presence of the environmental toxicant would change this binding affinity, e.g. dissociation or inhibition of the binding of the binding partner to the nucleic acid template (See claims 1-

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5), and such change is an indicative of the presence of the target environmental toxicant (see claims 1-5).

With respect to claim 3, the environmental toxicant could be metals or other xenobiotics (See Background).

With respect to claim 4, the binding partner could be a zinc-finger binding protein (See claim 1).

With respect to claim 5, Hannas et al. teach using enzyme-substrate for immunodetection (See claims 3-4).

With respect to claim 7, the zinc-finger protein contains sulfhydry functional group (Col. 3, line 6-20).

With respect to claim 37, the solid substrate can be of cellulose or glass (Col. 7, line 62-64).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

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2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
5. Claims 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hannas et al. in view of Urdea et al. (US 5552280).

Hannas et al. reference has been discussed but is silent in teaching use of polystyrene as a solid substrate of DNA molecule for the assay.

Urdea et al. teach using polystyrene substrate for attaching DNA can increase the efficiency for binding assay (See Disclosure of Invention).

Therefore, it would have been obvious to one ordinary skill in the art at the time the invention was made to have motivated Hannas et al. to use polystyrene for the substrates of nucleic acid as taught by Urdea et al. to increase the detection efficiency since it is known in the art and use of different material for optimization purpose merely involves routine practice in the art. In re Aller 105 USPQ 233.

6. Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hannas et al. in view of Cabib et al. (US 5784162).

Hannas et al. reference teaches using fluorescen label for detection the binding of the environmental toxicant. However, Hannas et al. do not explicitly disclose using a specific fluorescent “dye” for detection purpose (emphasis added).

Cabib et al. teach using acridine orange, a fluorescent dye, as a fluorescent marker for detection purpose (Col. 33, line 50 to Col. 34, line 25).

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Therefore, it would have been obvious to one ordinary skill in the art at the time the invention was made to have provided Hannas et al. with alternative fluorescent marker, such as acridine orange as taught by Cabib, since it is well-known in the art for fluorescent marker and use of different alternative for optimization purpose merely involves routine practice in the art. In re Aller 105 USPQ 233.

***Response to Applicant's Arguments***

7. Applicant's arguments with respect to claims 1, 3-7, 11, 34 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

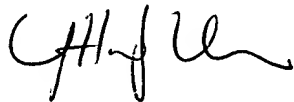
8. No claim is allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jacob Cheu whose telephone number is 571-272-0814. The examiner can normally be reached on 9:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long Le can be reached on 571-272-0823. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jacob Cheu  
Examiner  
Art Unit 1641



June 9, 2005



LONG V. LE  
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06/23/05